

Title (en)

Fuel injection control device for internal combustion engine

Title (de)

Kraftstoffeinspritz-Regelvorrichtung für eine Brennkraftmaschine

Title (fr)

Dispositif pour régler l'injection de carburant pour moteur à combustion interne

Publication

**EP 0750104 A1 19961227 (EN)**

Application

**EP 96113815 A 19940118**

Priority

- EP 94100665 A 19940118
- JP 2315993 A 19930119

Abstract (en)

An excess voltage applied to a piezoelectric element is detected and controlled to improve durability and reliability of the piezoelectric element. A fuel injection control device for an internal combustion engine in which a power source voltage is boosted by a dc-dc converter and the so-boosted output voltage is supplied via a first choke coil and a first thyristor to a piezoelectric element for charging the piezoelectric element for being subsequently discharged via a second thyristor and a second choke coil. The fuel injection control device includes a negative voltage detection unit for detecting the negative voltage at a cathode terminal of the second thyristor and a negative voltage control unit for controlling the voltage at the cathode terminal of the second thyristor to substantially a ground potential under control by an output signal of the negative voltage detection unit. <IMAGE>

IPC 1-7

**F02D 41/02**

IPC 8 full level

**F02D 41/20** (2006.01); **F02D 41/40** (2006.01); **F02M 51/00** (2006.01); **H01L 41/04** (2006.01)

CPC (source: EP US)

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Citation (search report)

- [XA] EP 0464443 A1 19920108 - TOYOTA MOTOR CO LTD [JP]
- [A] PATENT ABSTRACTS OF JAPAN

Cited by

FR2760489A1; EP1067608A1; FR2796219A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0611880 A2 19940824**; **EP 0611880 A3 19941221**; **EP 0611880 B1 19970730**; DE 69404498 D1 19970904; DE 69404498 T2 19980205; DE 69422309 D1 20000127; DE 69422309 T2 20000608; EP 0750104 A1 19961227; EP 0750104 B1 19991222; JP 3085337 B2 20000904; JP H06213047 A 19940802; US 5477831 A 19951226

DOCDB simple family (application)

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